

Montana Forensic Science Division

Basic Drug Screen Drugs: Full Scan GC/MS/NPD		
Drug:	Description / Comments:	LOD
Alprazolam	Benzodiazapine; anxiolytic	20 ng/mL
Amitriptyline	Tricyclic antidepressant	20 ng/mL
Amphetamine	CNS Stimulant; anorectic; drug of abuse	20 ng/mL
Atropine	Anticholinergic; alkaloid in 'Deadly Nightshade'; parasympatholytic	*
Bupivacaine	Long acting local anesthetic	*
Bupropion	Antidepressant; unstable	20 ng/mL
Bupropion metabolite	Bupropion metabolite (approx. 3 similar metabolites)	*
Caffeine	Mild CNS Stimulant	*
Chlordiazepoxide	Tranquilizer; metabolizes to nordiazepam	20 ng/mL
Chlorpheniramine	Antihistamine	20 ng/mL
Chlorpromazine	Antipsychotic	50 ng/ml
Citalopram	SSRI - Antidepressant	20 ng/mL
Clonazepam	Benzodiazepine; Anticonvulsant, anxiolytic	*
Clozapine	Antipsychotic	20 ng/mL
Cocaethylene	Active drug formed in the body after / during alcohol and cocaine use	20 ng/mL
Cocaine	CNS Stimulant; drug of abuse; local anesthetic	20 ng/mL
Codeine	Narcotic analgesic	20 ng/mL
Cotinine	Nicotine metabolite	*
Cyclobenzaprine	Muscle relaxant (Flexeril)	*
Desipramine	Active antidepressant and metabolite of Imipramine	100 ng/mL
Dextromethorphan	Antitussive; Analog of codeine	50 ng/mL
Diazepam	Benzodiazapine; anxiolytic; muscle relaxant; anticonvulsant	20 ng/mL
Diltiazem	Double peaks - Calcium channel blocker for angina treatment, HTN	20 ng/mL
Diphenhydramine	Antihistamine	20 ng/mL
Doxepin	Tricyclic antidepressant	20 ng/mL
Doxylamine	Antihistamine	50 ng/mL NPD
Ecgonine methyl ester	Cocaine metabolite	*
EDDP	Methadone metabolite	*
Ephedrine	Mild CNS Stimulant; nasal decongestant; bronchodilator	500 ng/mL NPD
Fentanyl	Narcotic analgesic	20 ng/mL
Fluoxetine	SSRI - Antidepressant	75 ng/mL
Flurazepam	Benzodiazepine; hypnotic	20 ng/mL
Hydrocodone	Narcotic analgesic	20 ng/mL
Hydroxyzine	Antihistamine	75 ng/mL NPD
Imipramine	Tricyclic antidepressant	50 ng/mL NPD
Ketamine	Dissociative anesthetic; anesthetic induction; drug of abuse	20 ng/mL
Lamotrigine	Anticonvulsant / antipsychotic	1000 ng/mL
Levorphanol	Dextromethorphan metabolite; Opiate substitute	*
Lidocaine	Local anesthetic	*
MDA	Designer amphetamine; psychotropic amphetamine	100 ng/mL
MDEA	Designer amphetamine; psychotropic amphetamine	*
MDMA	Designer amphetamine; psychotropic amphetamine	20 ng/mL
Meperidine	Narcotic analgesic	20 ng/mL
Metaxalone	Muscle relaxant	*

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Drug:	Description / Comments:	LOD
Methadone	Analgesic; morphine substitute	20 ng/mL
Methamphetamine	CNS Stimulant; anorectic; drug of abuse; nasal decongestant	20 ng/mL
Methaqualone	Sedative; hypnotic	*
Methcathinone	CNS Stimulant; related to cathinone (Khat)	*
Methylphenidate	Treats depression and narcolepsy; drug of abuse	20 ng/mL NPD
Metoclopramide	Treats gastroesophageal reflux; treats nausea (chemotherapy)	*
Metoprolol	Antihypertensive	*
Midazolam	Benzodiazepine; pre-operative sedative/ hypnotic; induction	20 ng/mL
Mirtazapine	Tetracyclic antidepressant	20 ng/mL
Nicotine	Recreational drug; mild CNS stimulant; (tobacco)	*
Nor-clozapine	Clozapine metabolite	*
Nor-diazepam	Diazepam metabolite	*
Nor-doaxepin	Doaxepin metabolite	*
Nor-fluoxetine	Fluoxetine metabolite	*
Nor-meperidine	Meperidine metabolite	*
Nor-promethazine	Promethazine metabolite	*
Nor-propoxyphene	PPX metabolite; (3 breakdown peaks)	50 ng/mL
Nor-sertraline	Sertraline metabolite	*
Nortriptyline	Active antidepressant and metabolite of Amitriptyline	75 ng/mL
Nor-venlafaxine	Antidepressant	*
Nor-verapamil	Verapamil metabolite	*
Olanzapine	Antipsychotic (Xyprexa)	20 ng/mL
Oxcarbazepine	Anticonvulsant (Epilepsy)	20 ng/mL NPD
Oxycodone	Narcotic analgesic	20 ng/mL
Paroxetine	SSRI - Antidepressant	20 ng/mL
Phencyclidine (PCP)	Dissociative anesthetic; veterinary tranquilizer; drug of abuse	20 ng/mL
Pheniramine	Antihistamine	20 ng/mL
Phentermine	Anorectic agent; mild CNS stimulant	20 ng/mL
Phenylpropanolamine	Anorectic agent; mild CNS stimulant	*
PMA	Designer amphetamine; MDMA adulterant	*
Procaine	Local anesthetic; cocaine adulterant	*
Promethazine	Antihistamine; antiemetic; sedative	*
Propofol	Short-acting IV hypnotic; induction; also veterinary sedative	*
Propoxyphene	Mild narcotic analgesic (PPX)	50 ng/mL
Pseudoephedrine	Nasal decongestant; bronchodilator	*
Quetiapine	Antipsychotic; neuroleptic	500 ng/mL NPD
Quinidine	Antiarrhythmic agent	*
Quinine	Anti-malarial agent; adulterant in heroin	*
Scopolamine	Antimuscarinic; CNS depressant; treats motion sickness	*
Sertraline	SSRI - Antidepressant	100 ng/mL
Strychnine	CNS Stimulant/ convulsant	*
Temazepam	Benzodiazepine; hypnotic	*
Tramadol	Narcotic analgesic	20 ng/mL
Tramadol (N-desmethyl)	Tramadol metabolite	75 ng/mL
Tramadol (O-desmethyl)	Tramadol metabolite	*

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Drug:	Description / Comments:	LOD
Trazodone	Antidepressant	20 ng/mL
Triazolam	Benzodiazepine; hypnotic	*
Trimipramine	Tricyclic antidepressant	*
Venlafaxine	Antidepressant	75 ng/mL
Verapamil	Anti-angina; anti-HTN	50 ng/mL NPD
Zolpidem	Hypnotic; sleep aid	20 ng/mL
* = Standard not available at time of testing		
Notes: This is not an exhaustive list, there could be drugs found in this assay that are not listed.		
Notes: No drug was tested below 20 ng/mL		
Notes: Detection of all drugs are extraction specific and can vary from experiment to experiment.		
Acid/Neutral Drug Screen: Full Scan GC/MS/FID		
Drug:	Description / Comments:	LOD (mg/L)
Acetaminophen	Pain Relief	0.5
Butalbital	Barbiturate; CNS Depressant	0.1
Carbamazepine	Anti-seizure	0.1
Carisoprodol	Muscle Relaxant	0.5
Haloperidol	Antipsychotic	0.5
Ibuprofen	Pain Relief	0.1
Levetiracetam	Anti-seizure	0.5
Meprobamate	Muscle Relaxant	0.1
Pentobarbital	Barbiturate; CNS Depressant	0.1
Phenobarbital	Barbiturate; CNS Depressant	0.1
Phenytoin	Anti-seizure	0.1
Secobarbital	Barbiturate; CNS Depressant	0.1
Valproic Acid	Anti-seizure	0.5
Notes: This is not an exhaustive list, there could be drugs found in this assay that are not listed.		
Notes: Detection of all drugs are extraction specific and can vary from experiment to experiment.		
URINE ELISA		
Assay	Analyte	Cutoff (ng/mL)
Amphetamine	Amphetamine	200
Barbiturates	Secobarbital	200
Benzodiazepines	Oxazepam	100
Cocaine	Benzoyllecgonine	150
Methamphetamine	Methamphetamine	200
Opiates	Morphine	200
Oxycodone	Oxycodone	200
THC	Carboxy-THC	20

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BLOOD ELISA		
Assay	Analyte	Cutoff (ng/mL)
Amphetamine	Amphetamine	20
Barbiturates	Secobarbital	100
Benzodiazepines	Oxazepam	50
Buprenorphine	Buprenorphine	2
Cocaine	Benzoyllecgonine	50
Fentanyl	Fentanyl	2
Methamphetamine	Methamphetamine	20
Opiates	Morphine	20
Oxycodone	Oxycodone	25
THC	Carboxy-THC	10
Benzodiazepine Screen by LC/MS/MS		
		LOD
7-aminoclonazepam		10 ng/mL
7-aminoflunitrazepam		10 ng/mL
Alpha hydroxyalprazolam		10 ng/mL
Alprazolam		10 ng/mL
Chlordiazepoxide		10 ng/mL
Clonazepam		10 ng/mL
Diazepam		10 ng/mL
Etizolam		10 ng/mL
Flunitrazepam		10 ng/mL
Lorazepam		10 ng/mL
Midazolam		10 ng/mL
Nordiazepam		10 ng/mL
Oxazepam		10 ng/mL
Temazepam		10 ng/mL
Zolpidem		10 ng/mL
Opiate Screen by LC/MS/MS		
		LOD
6-acetylmorphine (6-MAM)		Blood: 2 ng/mL Urine: 10ng/mL
Buprenorphine		2 ng/mL
Codeine		10 ng/mL
Fentanyl		2 ng/mL
Herion		10 ng/mL
Hydrocodone		10 ng/mL
Hydromorphone		10 ng/mL
Morphine		10 ng/mL
Norbuprenorphine		2 ng/mL
Norfentanyl		2 ng/mL
Noroxycodone		10 ng/mL
Oxycodone		10 ng/mL
Oxymorphone		10 ng/mL
Gamma-hydroxybutyrate (GHB) Screen by LC/MS/MS		
		LOD
GHB		10 mg/L

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Amines Screen by LC/MS/MS		LOD
Amphetamine		Blood: 10 ng/mL Urine: 20ng/mL
Ephedrine		Blood: 10 ng/mL Urine: 20ng/mL
MDA		Blood: 10 ng/mL Urine: 20ng/mL
MDMA		Blood: 10 ng/mL Urine: 20ng/mL
Methamphetamine		Blood: 10 ng/mL Urine: 20ng/mL
Phentermine		Blood: 10 ng/mL Urine: 20ng/mL
Pseudoephedrine		Blood: 10 ng/mL Urine: 20ng/mL